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ABSTRACT

This study of the nature, depth, and comprehensiveness of the system of postsecondary cooperative education shows the incidental presence of that system on U.S. campuses and demonstrates that cooperative education is highly unlikely to become the resource for a profound transformation of the work force that its advocates have suggested. The data were collected in 1987 as part of a larger study of postsecondary institutions involving survey responses from a nationally representative sample of 432 postsecondary education institutions. Respondents were institutional administrators, college placement directors, academic department chairpersons from occupational areas, faculty, and students in occupational education. The study's major findings are that less than 15 percent of the student enrollment of a national sample of three types of postsecondary institutions are involved in the program, less than half of those who do participate in the program receive academic credit for that participation, fewer than half of the nation's postsecondary placement directors regard postsecondary education cooperative education as an effective job development strategy, employers have little or no involvement in the determination of grades for participants, and the program is administered through only a small number of faculty coordinators. The document includes a 14-item bibliography and an appendix containing the survey questions regarding cooperative education. (CML)

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POSTSECONDARY COOPERATIVE EDUCATION: AN EXAMINATION OF SURVEY RESULTS AND POLICY IMPLICATIONS

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FOREWORD

The importance of postsecondary education continues to increase as the retraining and further training of the work force becomes more and more a standard part of work life. Ways of increasing the effectiveness of education as well as making it more attractive to the nontraditional adult student are worth investigating.

The data used as the basis for this report was gathered as a result of a contract with the Office of Vocational and Adult Education, U.S. Department of Education. Our appreciation is extended to Dr. Kevin Hollenbeck, Ms. Catharine P. Warmbrod, Dr. Gary Grossman, and Ms. Paula K. Kurth, The National Center for Research in Vocational Education, The Ohio State University, who contributed substantially to the completion of this study.

Ray D. Ryan
Executive Director

INTRODUCTION

The purpose of this paper is to provide an empirical analysis of the nature, depth, and comprehensiveness of the system of cooperative education at the postsecondary level. Such an examination is important and timely for two reasons. First, the challenges faced by both postsecondary education and the society as a whole and the perceived potential for cooperative education to address these issues would seem to indicate the desirability for such a study. There is, at least at a rhetorical level, an increase in concern about global economic competition and a fear that America's dominance in the world may be slipping away. This is leading many to challenge the quality and competence of the American work force and is causing demands to be made that education respond as part of the solution of these issues. Cooperative education may be one approach with which to address these demands.

Second, the society is experiencing dramatic demographic shifts that are rapidly changing both the foci and the constituencies of the educational community. Most of the people who will constitute the work force of the often-cited "target" year 2000 are already in the work force. This suggests that education, particularly occupationally related schooling, is or should increasingly be concerned with preparing <u>adults</u> for the challenges of a rapidly changing world. This will force changes in the nature and style of both school and work, will threaten the stability of social institutions, and will make an appropriate

response to future educational needs difficult. Clearly, a re-examination of the foundations of occupational training for adults is suggested and postsecondary cooperative education is one resource from which to draw to meet this need.

Coupled with these factors is concern about American education in general. Within the past several decades, American education increasingly has been called upon to address and remediate a number of perceived problem areas in American society. Among other issues, educators have been asked to better prepare students for the workplace of the future and to respond to the economic crisis that some see as imminent. As well, educators have been held responsible for action toward "excellence" in academic achievement in the nation's schools and to do so in such a way as to ensure equality of social and economic opportunity to those relatively less well equipped to function in the society of the 21st century. These challenges are certainly daunting, particularly given the speed with which technological change, and its attendant economic side effects, are believed to be impacting the nation.

These future challenges cause many to call for new programs and new funding to address these problems. Further complicating the issue, however, is the fact that ANY new programs, including ones that are proposed to attack problems of the magnitude described, are highly unlikely to be authorized in the near future at either the federal level or in state and local governments, given the degree of budgetary difficulties faced by public-sector entities all across the nation. Clearly, even if new proposals

were to be made to deal effectively with some of the dilemmas, few funds are available to support their implementation.

The present fiscal realities, therefore, are forcing a new examination of the educational agenda, making it prudent to review the quality, productivity, and potential of programs already in place. Perhaps a reinvigoration of existing approaches can cause education to respond in a cost-effective manner. It becomes of great importance, then, to review approaches that currently exist in order to evaluate the degree to which they can make a contribution toward resolving the economic, educational, and social challenges we face as a nation.

One such program that has been in existence for many years is cooperative education, which operates at both the secondary and postsecondary levels. Although it has become a standard offering to students in many schools and colleges across the country, the perceived adequacy and level of acceptance of cooperative education has never been subjected to a rigorous and comprehensive empirical examination. As such, we do not know whether the program has either performed the role for which it was designed or can make some contribution toward resolving the challenges ahead. What may have been ignored in the surge of concern about work force excellence and productivity, therefore, is an approach that may well be a highly cost-effective and appropriate response to the challenges ahead. Furthermore, inasmuch as the vast majority of workers of the year 2000 are already adults currently in the work force, the focus of education must increasingly address the adult population and, therefore, more centrally emphasize the

postsecondary arena. Hence, postsecondary cooperative education is deserving of a close examination to determine its utility and practicality as a response to the nation's future labor requirements.

This paper seeks to investigate the usefulness of this educational program by examining cooperative education as it functions in colleges, universities, and technical institutes. America's postsecondary education programs have both tremendous opportunities and serious challenges in providing for the employment needs of the adult population, developing retraining opportunities to meet a changing technology, and developing the human resources whereby the American economy can continue to grow. Postsecondary cooperative education may offer some potential.

Specifically, this paper explores the following issues:

1. The magnitude and nature of postsecondary cooperative education enrollment as it exists today.
2. The degree to which postsecondary cooperative education is believed to be effective for job development.
3. The extent of institutional instructor and employer involvement in postsecondary cooperative education programs.

In addition to these three questions, some attention will be given to the adequacy of cooperative education for addressing the nation's work force problems and a discussion of areas of potentially fruitful research toward a greater understanding of these issues.

COOPERATIVE EDUCATION AS AN EDUCATIONAL OPTION

Historical Background

Postsecondary cooperative education came into existence early in the 20th century. The University of Cincinnati is credited with beginning the first program of this kind in 1906. Over the next 50 years, 55 more institutions began co-op programs. Its foundations, however, were somewhat different than we understand the program to be today. Most of the early efforts in cooperative education were devoted to work and study in engineering and other highly technical fields (Dromgoogle, Nielsen, and Rowe 1987).

The lack of a consistent funding base restricted the development of the program to a sporadic and inconsistent level of implementation. Relatively few institutions participated. Indeed, community and junior colleges came rather late to utilization of the cooperative education option, the first 2-year college commencing a small field placement program in nursing in 1950 (Charles Steward Mott Community College in Michigan). Soon thereafter, a few other 2-year colleges inaugurated co-op programs, but the great surge in cooperative education occurred simultaneously with and as a consequence of the rapid growth of the postsecondary education, particularly community, junior, and technical colleges, in the 1960s (Heinemann 1988; Parnell 1988).

The expansion in postsecondary co-op education can be accounted for by a variety of factors. First, the growth of community colleges during this period was driven, obviously, by increased numbers of students seeking higher education. It was,

therefore, advantageous for colleges to assist students in financially; cooperative education was one way in which work and study could be combined to benefit students seeking higher education. In addition, business and industry began to recognize the clear advantage of hiring preprofessional student workers with relatively high skill levels but for reduced wages. This fed an increasing demand for co-op ed workers, allowing programs to expand to majors outside of narrowly technical areas and encouraging community colleges to institutionalize co-op programs as standard options for student participation. Thus, cooperative education grew quickly across the country to such an extent that, as it stands today, almost one-half of all available postsecondary co-op programs reside in community and technical colleges (Heinemann 1988). As a consequence, cooperative education has been considered to be valuable both to students seeking postsecondary education and to colleges wanting to retain students in particular program areas. Theoretically, the program is of mutual benefit to students, their colleges, and employers, providing funds to continue study, practical occupational skill development, and a strong incentive for employer participation.

But has it, in fact, been the boon its reputation would suggest? This question has rarely been asked, and when considered, answered only tentatively. If increased funding is a criterion of success, the federal government certainly considers it to be useful. Lobbyists for cooperative education were successful in having title III of the Higher Education Act of 1965 amended to permit postsecondary institutions to utilize these

funds for developing cooperative education programs (Porter and Nielson 1986). Therefore, despite early limitations, schools and colleges were ultimately able to utilize a portion of work-study appropriations to develop the co-op ed option (Dube and Miller 1988). Further federal legislation continued to underwrite the cooperative education movement. Large-scale federal sponsorship of cooperative education commenced when title IV-D funds were appropriated specifically for this option in 1972. Throughout the 70s, a stream of legislation continued to expand the program scope and also provided for increased funding.

By 1985, the impact of federal involvement was clear. Senator Charles Grassley reported to the Congress that 177,000 co-op students in 1983 had earned over $1 billion in wages and paid $133 million in taxes, a 900 percent increase over federal investment. These figures, of course, look rather good. Today, roughly 200,000 students per year now work in co-op programs and pay taxes well in excess of the presumed federal outlays.

However, there is a substantial difference between a program that simply puts students to work in some manner in order to provide financial assistance to them, inexpensive workers for employers, and tax revenues for government, and a program that actually assists in the development of occupational skills, employment prospects, and career development, as the co-op program was designed to do. Workers of all kinds pay taxes. But is there anything special about cooperative education or its students? In order to approach this question, a review of recent literature in cooperative education program performance is indicated.

Cooperative Education in Today's Academic Marketplace

The term "excellence" is used so often in education today that it may have lost any meaning it once had. Certainly, the Bell Commission (1983) provided the principal impetus behind this trend. The impact of the Bell document was considerable, although its reach could not be foreseen at the time. In addition to focusing considerable attention on and criticism about the quality of education at all levels, it also caused representatives of virtually every area of the field to defend their respective turf (Willie and Miller 1988). This reaction spawned a plethora of other studies and reports echoing the rhetorical demand for "excellence" in the context of competing educational interest groups. Included in this series of critiques are reports concerning the status and future of vocational education, perhaps the most prominent of which was the work of the National Commission on Secondary Vocational Education (1985).

The commission reviewed many areas of concern, including the future of the business, labor, and community linkages. Although generally assailing the condition of such relationships, one program was singled out as having both a strong historical tradition of business-industry-education cooperation and a strong potential for future success: cooperative education. Highlighting such a venerable program for this attention is quite remarkable at a time when totally new approaches are said to be needed. Even more remarkable, however, is the relative dearth of solid information that was presented to advance this proposition.

Upon investigation, it is clear that little exists. Of the relatively few studies that do exist about cooperative education, several are mere advocacy documents for the program. Very few of these studies attempt to deal with it at a level beyond the case study or anecdote, much less a thorough quantitative analysis. Fewer still even discuss it much beyond the confines of program performance in a particular school or regional area. As such, we do not really know if cooperative education has the value its advocates claim. It is, therefore, impossible to determine if the high opinions some have about cooperative education are merited by its successes or are, in fact, more representative of attempts to "circle the wagons" in the face of the pending federal budget cuts (Gross and Heller 1983). A great deal of public funding has gone into the program area and it may be that its advocates are merely attempting to defend its existence. Clearly, the necessary questions must be asked to see if the kind of faith the National Commission on Secondary Vocational Education found for cooperative education is warranted at the postsecondary level, and an inquiry must be made to examine the capacity of the program to address key work force quality issues. In order to approach these questions, it is useful to review several recent studies which may lend some insight into its effectiveness.

Anderson (1981) argues that cooperative education as conducted at a major southwestern university created and enhanced relationships between business and industry and the education community, particularly in the area of technical communication. Barbato (1979) suggests that co-op students receive advantages

"in the real world," and employers receive substantial benefits as well. Lewis and Fraser (1982), in one of the few quantitative approaches to the question that is truly national in scope, found co-op ed to be of value, but they also noted that only 10 percent of all students enrolled in occupationally specific training at the secondary and postsecondary levels participated in co-op programs. This low level of participation was not due to employer lack of interest or resistance. Indeed, it was found that in addition to the 22 percent of the membership of the National Association of Manufacturers who utilized students in work experience programs, an additional 56 percent were willing to do so. Clearly, it seems educators and administrators were failing to make fuller use of the cooperative education option and its potential.

In terms of the success of programs and the determinants of those efforts, Freeman (1978) reviewed the cooperative education program of one community college and found the following:

- Male co-op students tend to be more likely to be employed in program-related jobs than their nonco-op counterparts.
- Co-op students complete more technical courses than others.
- Co-op students earn more credit hours than nonco-op.
- Co-op students have higher grade point averages than nonco-op students.
- Participation in cooperative education is a far better predictor of program related placement than is graduation, regardless of whether the certificate received is occupationally related.

Given these data, one would be inclined to think rather well of cooperative education. However, in addition to rather disabling methodological and statistical problems in the Freeman study, the paper deals with only one postsecondary institution.

As Gross and Heller (1983) note in a far more comprehensive study, the characteristics of cooperative education programs vary widely. In turn, these variations have some (but not total) impact on the quality, acceptance, and longevity of cooperative education programs across the country. Gross and Heller found that, in general, co-op efforts tend to do better in larger, more urban, and more diverse (i.e., a greater number of degrees offered) postsecondary institutions. Further, successful programs exist in contexts in which co-op was a "major" offering and substantial institutional resources were devoted to it, such as full-time staff. And, not surprisingly, the longer an institution had received federal funds for co-op education, the more it tended to have a stable or growing program. However, academic credit for student participation was not a distinguishing characteristic of "good" programs.

Although these studies lend some insight into the functioning of cooperative education, there are still more questions that must be examined. Among them are such issues as these:

- How does the operation of co-op programs vary relative to the differences between postsecondary institutions?
- To what degree are there regional differences in program performance?
- Where do differences exist in terms of programs requiring cooperative education?

- What are the involvement levels of faculty in co-op programs?
- To what extent are employers involved in assessing student performance?
- How well does cooperative education perform as a job development strategy?
- To what extent can conclusions be made as to the viability of cooperative education as a strategy for the future work force needs of the nation?

In order to approach these questions, data that are national in character and involve the various constituencies to which cooperative education must speak should be compiled and analyzed. The scope must also be broad enough to permit a comparative analysis of the variety of delivery modalities that characterize American postsecondary education. A study with these characteristics has been conducted recently. The Hollenbeck et al. (1987) study of postsecondary occupational education delivery systems contains, among other things, a variety of indicators concerning cooperative education (see appendix). The questions, therefore, will be approached by utilizing these existing data, the nature of which will be described below.

METHODOLOGY

The Hollenbeck et al. (1987) study contains a nationally representative sample of American public and not-for-profit postsecondary institutions, which were selected by criteria that are discussed at length in the document. The study includes 432 institutions from around the nation differentiated as to type. Within the sample, 238 are vocational-technical institutes, 118 are community/junior colleges, and 76 are 4-year colleges that have an occupational emphasis. From these institutions, five different surveys were taken of the constituents of postsecondary education, including responses from institutional administrators (n=377), college placement directors (n=364), academic department chairpersons from occupational areas (n=605), faculty (n=1,239), and students in occupational education (n=3,315).

Included among many other issues in the surveys are 13 indicators that specifically refer to cooperative education. In this paper, the data from these surveys will be analyzed and the issues raised in the literature discussed. Further, the specific questions raised in terms of this document will be addressed along with their implications for public policy. As substantial differences exist in terms of the structure of items in each survey as well as the sampling procedure, cross-survey analyses will generally be avoided. Exceptions will be made only when the data tend to support an overall tendency in the data. In these few cases, the limitations of the generalizability of these data will be noted.

DATA ANALYSIS

Cooperative Education as a Function of Institution Type and Region

With respect to the question regarding the operation of co-op programs relative to the differences between types of postsecondary institutions, table 1 displays these data first from the student survey.

TABLE 1

PERFORMANCE OF POSTSECONDARY COOPERATIVE EDUCATION PROGRAMS BY TYPE OF INSTITUTION (n=3,315)

	Community/ Junior Colleges	Technical Institutes	Colleges/ Universities
% Student Participation (Mean=13.25%)	14.48%	11.39%	12.84%
Mean Hours Worked/Week (Mean=22.96 hrs.)	21.64	23.87	25.74
% of Students Receiving Credit for Co-op (Mean=38.16%)	41.16%	33.33%	36.67%

Interpretively, student participation tends to be somewhat higher than Lewis and Fraser (1982) report, but it can hardly be called pervasive among postsecondary institutions. Students work approximately half-time in co-op programs, with college/university students working the most and community college students least. Overall, a minority of students receive academic credit for co-op

programs, community/junior colleges being more likely to offer it. This may reflect a somewhat higher degree of curricular integration in these institutions with respect to the program. This possibility is undermined, however, by the extent to which administrators (n=377) perceived cooperative education enrollments. In this data set, technical institutes were perceived to have the highest percentage enrollments. Table 2 provides those data, by institution type.

TABLE 2

ADMINISTRATOR PERCEPTION OF PERCENTAGES OF STUDENTS ENROLLED IN COOPERATIVE EDUCATION BY INSTITUTION TYPE (n=377)

Institute Type	Percentage of Students
Community/Junior Colleges	4.49
Technical Institutes	7.56
Colleges/Universities	6.46
TOTAL	5.80

Because of the ways in which the questions in the two surveys were asked, it is important not to make too much of the differences between the student and administrator surveys with respect to the incidence of cooperative education. Students in <u>occupational education</u> were asked about their participation, while administrators were asked about <u>all</u> students in their institutions. As such, differences in the relative magnitudes of enrollments in each institutional type have little meaning. However, these data do show that cooperative education is hardly more

common in community colleges than anywhere else. Any "integration" effect of cooperative education in community and junior colleges is, therefore, either illusory, or it is so well integrated as to be invisible. The most important finding in tables 1 and 2, however, show that student involvement is not nearly as pervasive as one might think, considering the claims made for it. In none of the various institutional categories does participation reach even 15 percent of the student population. Surprisingly, co-op ed is the least well represented in technical institutes, where the vocational-technical orientation of the course of study and the students would seem to lend itself favorably to the purpose of cooperative education programs. If co-op ed has value at all, it would seem to have its greatest utility in those areas in which technical occupational skills are most heavily concentrated. However, it does not seem to be utilized at technical institutes in a significant way. This point is further underscored by the fact that while only a minority of students taking the co-op option receive academic credit for it, students at technical institutes are the <u>least</u> likely to benefit in this way. Indeed, co-op tends to show up most strongly in the community and junior colleges, the most comprehensive type of institution, and, arguably, the most traditional. Perhaps it is the traditional character of the program that accounts for its existence. This can be shown by the regional breakdown of these same indicators in the student survey. Table 3 displays these results.

TABLE 3

PERFORMANCE OF POSTSECONDARY COOPERATIVE EDUCATION PROGRAMS BY REGION

	North East	North Central	South	West
% Student Participation	13.92%	18.62%	11.58%	11.54%
Mean Hours Worked	26.99	23.73	21.38	19.78
% of Students Receiving Credit for Co-op	44.44%	43.79%	32.44%	37.20%

Table 3 shows student participation as being the greatest in the North Central region, the Northeast providing the second highest level of student involvement. Likewise, students are likely to spend the most time working in the two regions and significantly more likely to receive academic credit for their work there, as compared to the South and the West. The importance of these data are not obvious at first glance. Some of their relevance may have to do with the fact that the academic institutions in the Northeast and North Central regions tend to be older, thus more likely to have had co-op programs for a longer period of time than in the South and West, following Gross and Heller (1983). However, the great expansion of community colleges and co-op programs occurred nationwide in the 1960s, not just in particular regions. It is, as such, possibly more strongly related to the type of industry characteristic of a region rather than the age of the institutions participating. The Northeast and

North Central regions are, of course, the locus of traditional "rust belt" business and industry, the South and West more often attracting "new," light industry and service jobs. This suggests that new and emerging "sunbelt" employers may find co-op education less useful than in traditional manufacturing. However, perhaps most important of all is that despite some slight variation in terms of institutional type and area of the country, the prevalence of cooperative education is never very extensive nor does it seem to be contributing greatly to the employment preparation of students in postsecondary institutions.

Cooperative Education and Job Development

The effectiveness of cooperative education as a job development strategy as determined by placement directors is shown in table 4 by institution type and table 5 by region.

TABLE 4

PERCENTAGE OF POSTSECONDARY INSTITUTIONS THAT REPORT COOPERATIVE EDUCATION AS AN EFFECTIVE JOB DEVELOPMENT STRATEGY (n=367)

Community/ Junior Colleges	Technical Institutes	Colleges/ Universities
43.43	41.82	41.10

TABLE 5

PERCENTAGE OF POSTSECONDARY INSTITUTIONS BY REGION THAT REPORT COOPERATIVE EDUCATION AS AN EFFECTIVE JOB DEVELOPMENT STRATEGY (n=367)

North East	North Central	South	West
39.68	43.33	45.22	38.60

The percentage of community and junior colleges reporting co-op ed to be an effective job development strategy is slightly higher than that reported by technical institutions and colleges and universities. Likewise, placement directors in the North Central and South regions are a bit more favorable than elsewhere. Perhaps of greater interest, however, is the fact that less than half of all placement directors regard cooperative education as an effective job development strategy. This point tends to overshadow other subtleties of the data. Without college and technical institute placement directors supporting the program, it is difficult to see its future potential.

Institutional and Student Involvement in Cooperative Education

The presumptive role of postsecondary cooperative education as expressed by its advocates implies a relationship between the institution and the employer which benefits all, particularly the student. An effective program in cooperative education, therefore, is one in which both the institution and the business community share an involvement. As such, the institutional role

serves co-op ed internally and the employer linkage is its external expression.

One measure of institutional involvement is the relationship of the faculty to the program, expressed in terms of the supervision of co-op students. Table 6 presents data relevant to this question.

TABLE 6

PERCENTAGE OF INSTRUCTORS SUPERVISING
0 TO 3+ STUDENTS (n=1,239)

Number of Students Supervised	Percentage of Supervisors
0	71.93
1-2	10.29
3+	17.77

Although precise estimates of faculty involvement in co-op ed are difficult to determine in this study because of the problems of incompatibility across surveys, these data give some indication of faculty involvement in the program. From the data in these tables, one can infer that the vast majority of faculty have no supervisory role in cooperative education, which can be interpreted as no direct involvement in it. For those relatively few faculty who are involved, most supervise 3 or more students, suggesting a major role in the program. These data indicate that cooperative education tends to function in particular educational areas or in discrete programs, rather than across the academic spectrum. This point is further made by examining tables 7 and 8, which show that extensive faculty involvement is relatively more

likely to take place in community/junior colleges and technical institutes, particularly in the Northeast and North Central regions.

TABLE 7

PERCENTAGE OF INSTRUCTORS SUPERVISING CO-OP ED BY NUMBER OF STUDENTS AND TYPE OF INSTITUTION (n=1,239)

Number of Students Supervised	Type of Institution		
	Community/ Junior Colleges	Technical Institutes	Colleges/ Universities
0	70.43	71.86	76.44
1-2	10.06	11.08	9.28
3	19.51	17.07	13.77

TABLE 8

PERCENTAGE OF INSTRUCTORS SUPERVISING CO-OP ED BY NUMBER OF STUDENTS AND REGION (n=1,239)

Number of Students Supervised	Region			
	North East	North Central	South	West
0	75.00	71.99	72.55	67.48
1-2	6.00	8.02	12.03	14.07
3	19.00	20.19	15.43	18.45

With respect to employer involvement, tables 9 and 10 examine the role played in evalutaing work done in cooperative education programs, as reported by faculty members.

TABLE 9

EMPLOYER INVOLVEMENT IN GRADING IN REQUIRED CO-OP PROGRAMS, BY INSTITUTION TYPE (n=1,239)

Type of Institution	Degree of Involvement			
	None	Recommend	Assign	Joint Effort with Faculty
Community/ Junior Colleges	15.61	19.35	3.74	14.96
Technical Institutes	13.00	15.48	2.79	13.00
Colleges/ Universities	15.74	18.52	4.17	11.50
TOTAL	14.90	18.11	3.55	13.78

TABLE 10

EMPLOYER INVOLVEMENT IN GRADING IN REQUIRED CO-OP PROGRAMS, BY REGION (n=1,239)

Region	Degree of Involvement			
	None	Recommend	Assign	Joint Effort with Faculty
North East	13.51	18.92	5.95	14.05
North Central	14.85	20.13	1.98	11.88
South	14.41	17.16	4.24	12.92
West	17.86	16.33	2.55	3.63
TOTAL	14.97	18.08	3.63	13.75

Clearly, the modal involvement of employers in the grading process for cooperative education students is to "recommend" grades to the institution. Yet, the second most frequently

occurring response is no involvement at all. This is the case across types of institutions and, for the most part, in all areas of the country. These data, therefore, tend not to indicate extensive employer involvement in the process and reflect a relatively low level of business and industry participation in cooperative education.

Given this final point, certain conclusions can be drawn concerning cooperative education and its impact in the postsecondary community. The following section elaborates these issues.

SUMMARY AND CONCLUSIONS

Cooperative education is a program that is well established in postsecondary education and generally well regarded. It would appear to offer some degree of promise for the education and training needs of America in the future. It certainly has an attractive premise, one which appears to offer benefits to all participants, at least upon initial inspection. First, it offers students the opportunity for financial assistance and skill development in what may be his or her career orientation. Second, for the institution, it can facilitate the retention of students and also help build a positive relationship with the business community. And, third, the emplcyer receives a potentially better qualified and committed individual at a fraction of what such a person's cost would be in the marketplace. Indeed, postsecondary cooperative education would seem to offer "wins" for all concerned.

We would tend to concur that such benefits do accrue to some. No data in this paper would dispute the notion that, in some places, the program does function as described by its advocates. The anecdotal evidence alone would indicate this. However, the scope of this paper was substantially beyond the question of the relative success of postsecondary cooperative education in some places. The question is, first, how comprehensively does it provide these benefits as a national program and, second, to what extent can co-op ed be looked to as a solution to the employment and training needs of the nation in the 21st century.

Reviewing the data, it is clear that the program functions nationally at a rather unimpressive level of magnitude and participation. No more than 15 percent of the student enrollment of a national sample of three types of postsecondary institutions are involved in the program. Of those who do participate, less than half receive academic credit for it. Institutional administrators underscore this relative lack of impact by noting that only 4-8 percent of their total student enrollment participate in co-op programs. These data would suggest that the impact of the program in the postsecondary environment is quite limited. Although there are small regional differences, they do not substantially alter the suggestion of a minimal program presence in postsecondary education.

Further evidence of this tendency is that substantially less than half of the nation's postsecondary placement directors regard postsecondary cooperative education as an effective job development strategy. Again, small regional differences do obtain, but these minor variations tend to reinforce, rather than dispute, the overall finding.

Instructor and employer involvement also shows the relatively incidental presence of cooperative education on the nation's campuses. Overwhelmingly, most faculty have little to do with the program, and while the data are not precise enough to determine the degree of faculty involvement across departments, the data do seem to indicate that co-op ed is administered through only a small number of faculty coordinators rather than a broadly shared

responsibility including many faculty. In addition, employers tend to have little or no involvement in grade determination. Only a very few actually assign the grade; in fact, more employers have no involvement with grades than work even jointly with faculty to grade students. And, this level of participation must be understood in the context of fewer than half the students receiving credit (grades) for cooperative education. Hence, even this small degree of participation is actually less than it may appear.

In general, cooperative education at the postsecondary level markedly fails to meet the promise of its advocates. This is not to say that it is a bad program, but rather, these data show that it hardly can be counted on as the vehicle to lead the nation's education and training enterprise into the 21st century, at least as it is presently constructed and funded. Indeed, co-op ed is a rather small program at the margins of American postsecondary education and, while performing a valuable service for some, has nowhere near the scope, funding, visibility, or impact to be a resource for a profound transformation of America's work force.

Could it be such a resource? Perhaps, but substantial changes would have to occur in the program nationally and its relative priority among educational policy alternatives. The fact that this kind of reappraisal is unlikely, particularly in light of today's realities, suggests that an expansion of postsecondary cooperative education will not occur. Whereas it has its advocates, so does every educational approach. It therefore must consider itself in competition for scarce resources with other

policy alternatives. In such an environment, the prognosis for postsecondary cooperative education is continued survival as a somewhat minor program in a relatively few institutions.

APPENDIX

QUESTIONS ON COOPERATIVE EDUCATION
ON THE 1987 NCRVE
POSTSECONDARY SURVEY

SURVEY QUESTIONS ON COOPERATIVE EDUCATION

Administrative Official

Q.15-Approximately what percentage of your students were enrolled in cooperative occupational programs in 1986-87? _____%

Q.16-Approximately what percentage of the students in your school received credit for co-op experiences during the 1986-87 school year? _____%

Placement Director

Q.4(a)-About what percentage of the students in your institution participate in the following activities between the time they enter and leave your institution? (WRITE PERCENTS. IF UNSURE, GIVE YOUR BEST ESTIMATE. IF THE ACTIVITY IS NOT OFFERED, ENTER "0".)

(a) Exploratory work experience programs (e.g., co-op/work study) _____%

Q.11(4)-From your experience at this institution, what are the most effective strategies for developing jobs? (Check all that apply)

(4) Co-op or internship programs

Department Chairperson

Q.14-Are students in your program required to complete a work-study experience, cooperative education experience, or internship in business/industry as part of their training?

(1) No
(2) Yes, up to 2 weeks
(3) Yes, 3 to 6 weeks
(4) Yes, 7 to 12 weeks
(5) Yes, 13 to 24 weeks
(6) Yes, over 24 weeks

Q.15-Do the employers who supervise the work experiences of your students influence the grades those students receive?

(1) No, our program does not usually get involved with work experience programs
(2) No
(3) Yes, employers recommend grades to the coordinator(s)
(4) Yes, employers assign work experience grades
(5) Yes, employers and coordinators jointly agree and assign students' grades

Faculty

Q.34-Do you typically arrange for and supervise cooperative education experiences of students?

(1) No
(2) Yes, typically 1 student per grading period
(3) Yes, typically two
(4) Yes, three
(5) Yes, 4 to 6
(6) Yes, more than 6

Q.35-Are students in your program required to complete a work-study experience or internship in business/industry as part of their training?

(1) No
(2) Yes, up to 2 weeks
(3) Yes, 3 to 6 weeks
(4) Yes, 7 to 12 weeks
(5) Yes, 13 to 24 weeks
(6) Yes, over 24 weeks

Q.36-Do the employers who supervise the work experiences of cooperative education students influence the grades those students receive?

(1) No, our program is not part of cooperative education
(2) No
(3) Yes, employers recommend grades to the coordinator(s)
(4) Yes, employers assign work experience grades
(5) Yes, employers and coordinators jointly agree and assign students' grades

Q.37(e)-To what extent do representatives of business, industry, and labor influence the following aspects of the program you teach?

(e) Providing/Developing learning or training sites (e.g., co-op) — Very Little to Considerable Influence 1 - 5

Q.38(c)-During the past 3 years, have you or others in your program . . .

(c) Systematically developed learning/training sites (e.g., co-op, work-study, career exploration) in your community? — No, 1; Once, 2; Twice, 4; Three T., 4

Students

Q.33-Do you participate in an internship or cooperative education program that involves employment off-campus?

(1) Yes
(2) No (Go to Q.35)

How many hours per week do you work as part of the program? _____ hours

Q.34-Do you receive credit toward a degree for co-op work?

(1) Yes
(2) No

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